

Measurement principles

Conductivity measurement

This measurement principle is based on the fact that the electrical conductivity changes depending on the moisture content of a porous material. In dry material, the electrical conductivity is lower than in wet material.

To measure the electrical resistance, two electrodes are inserted or driven into the material. The electrical resistance between these two electrodes can then be measured.

Through an optimized measuring method (which avoids the disadvantages of standard resistance measurement), a correct result is ensured even for long-term measurements. The evaluation electronics convert the measured conductivity value into weight percentage and display it on the screen as moisture content.



Measuring instruments using conductivity measurement methods:

BL2, BLL, WLW, BLW, wood chip moisture transmitter, BLO with standard sensor (Art. No. 12122)

Capacitive measurement

The capacitive measurement method makes use of the different dielectric constants (permittivity of a material for electric fields) of dry, non-conductive substances (approx. 2–10) and water (approx. 80). The wetter the material, the higher its dielectric constant.

Using a capacitor, this property can be made measurable. This capacitor consists of two electrodes integrated into the sensor, which create a high-frequency electric field in the material to be measured (the dielectric).

If material with a higher water content is located in the capacitor's fringe field, this results in an increase in capacitance.

The evaluation electronics convert this capacitance value into weight percentage and display it on the screen as moisture content.



Measuring devices using capacitive measuring methods: BMA-2, BMC, BRC, BLC, BP1, BLO with universal sensor (Item No. 12477)



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Grubatec AG

Wölferstrasse 5 · CH-4414 Füllinsdorf

Tel. +41(0)55 617 00 80 · sales@grubatec.ch · www.grubatec.ch